AMENDMI	ENT OF SOLIC	TATION/MODIFIC	ATION OF CO	NTRACT	30.5	1. CONTRACT ID CODE		PAGE OF PAGES
2. AMENDME	ENT/MODIFICATION	ON NO.	3. EFFECTIVE D.	ATE	4. REQ	JISITION/PURCHASE REQ. NO.	5. PR	ROJECT NO. (If applicable)
007			08/15/201	.4		ii a		
6. ISSUED B	Y	CODE	CPOD		7. ADM	INISTERED BY (If other than Item 6)	CODE	E
26 West Mail Co		Protection Luther King I				*	,	
O NIAME AND	ADDRESS OF C	ONTRACTOR (No., stree	A	T Code)	los	AMENDMENT OF SOLICITATION NO.		
BATTELL 505 KIN	E MEMORIA	L INSTITUTE	, county, state and 2n		9B.	DATED (SEE ITEM 11) MODIFICATION OF CONTRACT/ORI -C-11-038	DER NO.	
					10B	DATED (SEE ITEM 13)		A 2 A A
CODE (b))(4)		FACILITY CODE		11	./01/2012		
			11. THIS ITEM	ONLY APPLIES TO A	MENDMI	ENTS OF SOLICITATIONS		
virtue of thi to the solic	is amendment you itation and this am TING AND APPRO 1edule 13. THIS ITE	desire to change an offe endment, and is received DPRIATION DATA (If recommended)	or already submitted d prior to the openin quired)	, such change may be ig hour and date specif	made by fied.	CIFIED MAY RESULT IN REJECTION to the telegram or letter, provided each t	ram or letter i	makes reference ED IN ITEM 14.
	B. THE ABOVE appropriation		CT/ORDER IS MOD I IN ITEM 14, PURS	IFIED TO REFLECT T SUANT TO THE AUTH	THE ADN HORITY	ES SET FORTH IN ITEM 14 ARE MAD MINISTRATIVE CHANGES (such as chi DF FAR 43.103(b). Y OF:		
	D. OTHER (Spe	cify type of modification	and authority)			······································		
X	FAR 52.2	43-2, Change						<u> </u>
	1 10	MENT/MODIFICATION	1000	ign this document and section headings, incl	500	copies to the licitation/contract subject matter where		The state of the s
The data change. TOPO: E		sed to accom				k Order end date to -on Task Order. Th		
		ication : Ot			ction	*		
		mance End Da	re cuanĝeo	97				
Continu Except as pro		rms and conditions of th	e document referen	ced in Item 94 or 104	as here	tofore changed, remains unchanged an	d in full force	and effect
		NER (Type or print)	2 400Millour (Blotel)	sou in tolli on or lun,	16A. N.	AME AND TITLE OF CONTRACTING		
15B. CONTRA	ACTOR/OFFEROF		15	C. DATE SIGNED	11	amelle W. Davis	ELECTR	
	(Signature of person	authorized to sign)		9	1	WINCH W. TOILID	SIGNA'	100/13/2014

STANDARD FORM 30 (REV. 10-83) Prescribed by GSA FAR (48 CFR) 53.243

			
CONTINUES TION CHEET	REFERENCE NO. OF DOCUMENT BEING CONTINUED	PAGE	OF
CONTINUATION SHEET	EP-C-11-038/0011/007	2	2

NAME OF OFFEROR OR CONTRACTOR
BATTELLE MEMORIAL INSTITUTE

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (王)	AMOUNT (F)
	From: November 03, 2014 To: August 31, 2014				
	Payment: RTP Finance Center US Environmental Protection Agency RTP-Finance Center Mail Drop D143-02 109 TW Alexander Drive Durham NC 27711		į.	e e e e e e e e e e e e e e e e e e e	
	Period of Performance: 11/01/2012 to 08/31/2014				×
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AMENDI	MENT OF SOLICIT	ATION/MODIFIC	ATION OF CO	NTRACT		1. CONTRACT ID CODE	PA	GE OF PAGES
2. AMENDI	MENT/MODIFICATION	NO.	3. EFFECTIVE I	DATE	4. REC	UISITION/PURCHASE REQ. NO.	5. PROJE	CT NO. (If applicable)
006	9		06/18/20	14	See	Schedule	2	
6. ISSUED	BY	CODE	CPOD		7. ADN	MINISTERED BY (If other than Item 6)	CODE	
26 Wes	vironmental st Martin Lucode: NWD nati OH 452	ther King D						· ·
8. NAME A	ND ADDRESS OF CON	ITRACTOR (No., street	t, county, State and 2	IP Code)	(x) 9A.	AMENDMENT OF SOLICITATION NO.		:
505 KI	LE MEMORIAL NG AVE US OH 432012				9B. × 10A × EF	DATED (SEE ITEM 11) . MODIFICATION OF CONTRACT/ORD -C-11-038 11 . DATED (SEE ITEM 13)	DER NO.	
CODE	(b)(4)		FACILITY CODE		-			
	. , ,					1/01/2012 ENTS OF SOLICITATIONS		
Items 8 a separate THE PLA virtue of	and 15, and returning letter or telegram which ACE DESIGNATED FOR	col includes a reference R THE RECEIPT OF (sire to change an offe	pies of the amenda to the solicitation OFFERS PRIOR T or already submitte	ment; (b) By acknowle and amendment numl TO THE HOUR AND D d, such change may b	dging rec bers. FAI ATE SPE be made b	on or as amended, by one of the following eipt of this amendment on each copy of t LURE OF YOUR ACKNOWLEDGEMEN CIFIED MAY RESULT IN REJECTION of y telegram or letter, provided each telegon	the offer submitte IT TO BE RECEIV OF YOUR OFFEI	d; or (c) By /ED AT R. If by
	INTING AND APPROPE					rease:	-\$44,55	7.00
See Sc	hedule							
	B. THE ABOVE NU appropriation da	IMBERED CONTRAC te, etc.) SET FORTH	CT/ORDER IS MO I IN ITEM 14, PUP T IS ENTERED IN		THE ADI	ES SET FORTH IN ITEM 14 ARE MADE MINISTRATIVE CHANGES (such as cha OF FAR 43.103(b). TY OF:		
v	4 54	type of modification	The transfer of the second of the second					
X		on of Fund		sign this document an		copies to the i	energy control	· · · · · · · · · · · · · · · · · · ·
DUNS N The pu TOPO:	umber: (b)(4)	s modifica	(Organized by UC	F section headings, in	cluding s	onlicitation/contract subject matter where	feasible.)	
	for Modific				.00			• 4
Increm From: Contin	ental Funded \$225,753. ued	Amount cha	anged				: :	
	AND TITLE OF SIGNE		e document refere	nced in item 9A or 10/		tofore changed, remains unchanged and AME_AND TITLE OF CONTRACTING (·····
		• • • • • • • • • • • • • • • • • • • •				ille W. Davis		
15B. CONT	RACTOR/OFFEROR (Signature of person aut	horized to sign)	1	5C. DATE SIGNED	16	amille W. Davis	ELECTRONI SIGNATUR	Entra proper years to the
NSN 7540-0	11-152-8070				1		STANDARD F	ORM 30 (REV. 10-83)

STANDARD FORM 30 (REV. 10-83) Prescribed by GSA FAR (48 CFR) 53,243

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CONTINUATION SHEET	EP-C-11-038/0011/006		16 E		2	2	

ITEM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
(A)	(B)	(C)	(D)	(E)	(F)
	To: \$181,196.00				
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		a 2	# A	
	CHANGES FOR ACCOUNTING CODE:		23		
	13-14-C-261E000-301FK8XPW-2532-26A6F-13261EC316-00		is .		
	1		42	3 3	
	Account code changed from		2	8 8 8	
	13-14-C-261E000-301FK8XPW-253226A6F-13261EC316-0				
	01 to .			÷	
	13-14-C-261E000-301FK8XPW-2532-26A6F-13261EC316-00	*			
	1		1	0	v v
	Amount changed from \$44,557.00 to \$0.00				
	(a(b)(4)				
7	Cost: (\$ (b)(4)		N 27		
	Fee: (\$ Total: (\$44,557.00)	10			
	10cal: (944,557.00)			#1 #1 #1 #1 #1 #1 #1 #1 #1 #1 #1 #1 #1 #	
	Revised Task Order funding is as follows:	İ			¥
		22		8 8	
	Cost: \$ (b)(4)				
	Fee: \$				
	Total: \$181,196.00	200			
				*	
			4.7		
	Delivery Location Code: CPOD		9 8	ger to	
	CPOD	N.			
	US Environmental Protection Agency			-	
	26 West Martin Luther King Drive				
	Mail Code: NWD	*			
	Cincinnati OH 45268 USA		1		
	Payment:			2 0	
	RTP Finance Center				
	US Environmental Protection Agency RTP-Finance Center				and the second second
	Mail Drop D143-02	**			
	109 TW Alexander Drive		*		
	Durham NC 27711			¥7	
	FOB: Destination			a ,	
	Period of Performance: 11/01/2012 to 11/03/2014				
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VSN 7540-01-152	1		لـــــــا		OPTIONAL FORM 336 (4 86)

AMENDMENT OF SOLICITATION/N	ODIFIC	ATION OF CONTRAC	CT	1. CONTRACT ID CODE	1	E OF PAGES
2. AMENDMENT/MODIFICATION NO.		3. EFFECTIVE DATE	4. REG	UISITION/PURCHASE REQ. NO.		T NO. (If applicable)
005		11/01/2013	See	Schedule	1 1 1 V V V V V V V V V V V V V V V V V	s to thereby the same between the same
6. ISSUED BY	CODE	CPOD	7. AD	MINISTERED BY (If other than Item 6)	CODE	
CPOD US Environmental Protect 26 West Martin Luther K Mail Code: NWD Cincinnati OH 45268						
8. NAME AND ADDRESS OF CONTRACTOR	(No., stree	, county, State and ZIP Code)	(x) 9A	. AMENDMENT OF SOLICITATION NO.		
BATTELLE MEMORIAL INSTI 505 KING AVE COLUMBUS OH 432012693	TUTE		98	DATED (SEE ITEM 11) A. MODIFICATION OF CONTRACT/ORDI P-C-11-038	ER NO.	
			00	011		
	4.4		10	B. DATED (SEE ITEM 13)		
CODE (b)(4)		FACILITY CODE	1	.1/01/2012		8
		11. THIS ITEM ONLY A	PPLIES TO AMENDE	MENTS OF SOLICITATIONS	****	
THE PLACE DESIGNATED FOR THE REC virtue of this amendment you desire to chan to the solicitation and this amendment, and in the solicitation and the amendment, and in the solicitation and the solicitation of the solicitation and the solicitation of the solicitation and the solicitation of the solicitation of the solicitation and the solicitation of the solicitation and the solicitation and the solicitation of the solicitation and the solicitation	ge an offe is received	r already submitted, such cl I prior to the opening hour a	hange may be made			
				GES SET FORTH IN ITEM 14 ARE MADE OMINISTRATIVE CHANGES (such as char OF FAR 43.103(b).		
C. THIS SUPPLEMENTAL AG	REEMEN	T IS ENTERED INTO PURS	SUANT TO AUTHOR	ITY OF:		
D. OTHER (Specify type of mo	dification	and authority)				
2 2 4 7 14 14 14 14 14 14 14 14 14 14 14 14 14		and the second s	e-mails dated	10/31/01 and 11/01/13 betw	ween EPA an	d Battelle
E. IMPORTANT: Contractor	is not,	is required to sign this c	document and return	copies to the is	suing office.	
14. DESCRIPTION OF AMENDMENT/MODIF DUNS Number: (b)(4) The purpose of this moditor Performance for an accordance] ifica	cion is to exe	ercise the	option to extend the	Task Orde	
through November 3, 2014					and a great and a second and a second	
TOPO: Eric Kleiner						8
LIST OF CHANGES:						
Reason for Modification	: Tasi	COrder Extens	ion			
Continued						
Except as provided herein, all terms and condi-	tions of the	document referenced in Ite	em 9A or 10A, as her	etofore changed, remains unchanged and	in full force and e	ffect.
15A. NAME AND TITLE OF SIGNER (Type or	print)		16A. i	NAME AND TITLE OF CONTRACTING O	FFICER (Type or	print)
AND THE WAY			Cam	nille W. Davis		
15B. CONTRACTOR/OFFEROR		15C. DATE	SIGNED 16B. I	UNITED STATES OF AMERICA		16C. DATE SIGNED
(Signature of narrow authorized to sig	in)		-	(Signature of Contracting Officer)		11/01/2013
(Signature of person authorized to sig	"")			(Signature of Contracting Officer)		<u> </u>

CONTINUES TION CHEET	REFERENCE NO. OF DOCUMENT BEING CONTINUED	PAGE	OF
CONTINUATION SHEET	EP-C-11-038/0011/005	2	2

NAME OF OFFEROR OR CONTRACTOR
BATTELLE MEMORIAL INSTITUTE

TEM NO.	SUPPLIES/SERVICES	QUANTITY		UNIT PRICE	AMOUNT
(A)	(B)	(C)	(D)	(E)	(F)
e e	Period Of Performance End Date changed From: November 1, 2013 To: November 3, 2014			,	
	This is a No Cost extension. Delivery Location Code: CPOD CPOD				
	US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: NWD	0.52			
	Cincinnati OH 45268 USA	at		×	g e · · · · · · · · · · · · · · · · · ·
	Payment: RTP Finance Center US Environmental Protection Agency RTP-Finance Center				
41	Mail Drop D143-02 109 TW Alexander Drive Durham NC 27711				·
	FOB: Destination Period of Performance: 11/01/2012 to 11/03/2014		3		
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AMENDMENT OF SOLICITATION/MOI	DIFICATION OF	CONTRACT		1. CONTRACT ID CODE	Р	AGE OF PA	\GES
2. AMENDMENT/MODIFICATION NO.	3. EFFECT	IVE DATE	4. REC	UISITION/PURCHASE REQ. NO.	5. PRO	JECT NO. (If	applicable)
004	07/22/	/2013	See	Schedule			
	ODE CPOD		7. ADI	MINISTERED BY (If other than Item 6)	CODE		
CPOD US Environmental Protect 26 West Martin Luther Kir Mail Code: NWD Cincinnati OH 45268	· · · · · · · · · · · · · · · · · · ·					,	
8. NAME AND ADDRESS OF CONTRACTOR (NO	., street, county, State	and ZIP Code)	(x) 9A	AMENDMENT OF SOLICITATION NO.			<u></u>
BATTELLE MEMORIAL INSTITU 505 KING AVE COLUMBUS OH 432012693	TE	4 9	10	. DATED (SEE ITEM 11) A. MODIFICATION OF CONTRACT/ORDER N P-C-11-038	O.		
			00	011			
CODE (b)(4)	FACILITY	CODE	1000	B. DATED (SEE ITEM 13) 1/01/2012			
	11. THIS	ITEM ONLY APPLIES TO A					
Items 8 and 15, and returning separate letter or telegram which includes a ret THE PLACE DESIGNATED FOR THE RECEIF virtue of this amendment you desire to change to the solicitation and this amendment, and is r	copies of the all erence to the solici PT OF OFFERS PR an offer already su	mendment; (b) By acknowled tation and amendment numb NOR TO THE HOUR AND DA bmitted, such change may be	lging red ers. FA ATE SP e made	ceipt of this amendment on each copy of the off ILURE OF YOUR ACKNOWLEDGEMENT TO ECIFIED MAY RESULT IN REJECTION OF YO	fer submi BE REC OUR OFF	tted; or (c) By EIVED AT ER. If by	,
12. ACCOUNTING AND APPROPRIATION DATA	(If required)	Net	Inc	crease: \$4	44,55	7.00	
**************************************	TO MODIFICATIO	ON OF CONTRACTS/ORDER	S. IT M	ODIFIES THE CONTRACT/ORDER NO. AS DE	SCRIBEI	D IN ITEM 14.	
				GES SET FORTH IN ITEM 14 ARE MADE IN T DMINISTRATIVE CHANGES (such as changes of FAR 43.103(b).			
C. THIS SUPPLEMENTAL AGRE	EMENT IS ENTER	RED INTO PURSUANT TO A	UTHOR	RITY OF:			* 2
D. OTHER (Specify type of modi	ication and authori	ty)			,		*******
X Limitation of Fu	nds Notice						
E. IMPORTANT: Contractor X is		red to sign this document and					
14 DESCRIPTION OF AMENDMENT/MODIFIC DUNS Number: (b)(4) The purpose of this modification of the purpose of the		(a)	_			e Task	Order.
LIST OF CHANGES: Reason for Modification	Funding	Only Action					
Obligated Amount for this	Modifica	tion: \$44,557.	00	* ************************************			
New Total Obligated Amour	nt for thi	s Award: \$225,	753.	00			la la
Incremental Funded Amount Continued	changed	From \$181,196.	00 t	:0 \$225,753.00.			
Except as provided herein, all terms and condition 15A. NAME AND TITLE OF SIGNER (Type or pr		t referenced in Item 9A or 10/		eretofore changed, remains unchanged and in finite NAME AND TITLE OF CONTRACTING OFFI			
¥				mille W. Davis			
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED	16B.	UNITED STATES OF AMERICA		16C. [DATE SIGNED
(Signature of person authorized to sign)				(Signature of Contracting Officer)	is extended. is not extend the following methods: (a) By completing each copy of the offer submitted; or (c) By ALEDGEMENT TO BE RECEIVED AT REJECTION OF YOUR OFFER. If by ad each telegram or letter makes reference \$44,557.00 DRDER NO. AS DESCRIBED IN ITEM 14. 4 ARE MADE IN THE CONTRACT (such as changes in paying office, matter where feasible.) fully fund the Task of the inchanged and in full force and effect. Inchanged and in full force and effect. NTRACTING OFFICER (Type or print)		

CONTINUE TION CHEET	REFERENCE NO. OF DOCUMENT BEING CONTINUED	PAGE (OF	
CONTINUATION SHEET	EP-C-11-038/0011/004	2	2	2

BATTELLE MEMORIAL INSTITUTE

ITEM NO.	SUPPLIES/SERVICES	QUANTIT	YUNIT	UNIT PRICE	**	AMOUNT
(A)	(B)	(C)	(D)	(E)		(F)
			+-			
	CHANGES FOR LINE ITEM NUMBER: 1					14
	Obligated Amount for this modification: \$	44,557.00		Į	1	
	Incremental Funded Amount changed from					
и	\$181,196.00 to \$225,753.00					
	NEW ACCOUNTING CODE ADDED.					
	NEW ACCOUNTING CODE ADDED: Account code:					
	13-14-C-261E000-301FK8XPW-253226A6F-132	(61EC216 0				
	01	.01EC310-0				
	Beginning FiscalYear 13				1	
	Ending Fiscal Year 14	Ĭ				
3	Fund (Appropriation) C					
ř.	Budget Organization 261E000					
	Program (PRC) 301FK8XPW			*		
	Budget (BOC) 2532					
	Job # (Site/Project)	8			ĺ	
2	Cost Organization 26A6F					9
	DCN-LineID 13261EC316-001					
	Quantity: 0					
	Amount: \$44,557.00				ļ	
	Allouite: 944,557.00				a a	
	The break-out for this incremental funding	g is as				
	follows: (b)(4)					
	Cost: (b)(4)	W		10	2.3	
	Fee: \$				İ	
	Total: \$44,557.00					
1	The revised break-out for the entire Task	Order				
i	amount is as follows:				*	
12 Th	Cost: \$(b)(4)					
	Fee:					
	Total: \$225,753.00					
	Delivery Location Code: CPOD					
	CPOD					
	US Environmental Protection Agency					
	26 West Martin Luther King Drive					
	Mail Code: NWD					
	Cincinnati OH 45268 USA					
	Paymont.					
	Payment: RTP Finance Center					
	US Environmental Protection Agency					
	RTP-Finance Center					
	Mail Drop D143-02					
	109 TW Alexander Drive		1 1			
50 ³	Durham NC 27711					
	FOB: Destination					
	Period of Performance: 11/01/2012 to 11/0	1/2013				
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AMENDMENT OF SOLICITATION/MODIFIC	ATION OF CONTRACT		1. CONTRACT ID CODE	PAGE 1	OF PAGES
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REC	L QUISITION/PURCHASE REQ. NO.		NO. (If applicable)
003	05/10/2013	See	Schedule		
6. ISSUED BY CODE	CPOD	7. AD	MINISTERED BY (If other than Item 6)	CODE	
CPOD US Environmental Protection 26 West Martin Luther King I Mail Code: NWD Cincinnati OH 45268	~ -			. •	
8, NAME AND ADDRESS OF CONTRACTOR (No., stree	1 according 2014 and 2012 (Control)	100	AMENDMENT OF POLICITATION NO	·	
BATTELLE MEMORIAL INSTITUTE 505 KING AVE COLUMBUS OH 432012693	, county, State and ZIP Code)	98 × 10.	A MODIFICATION OF CONTRACT/ORDEF P-C-11-038	R NO.	
CODE (b)(4)	FACILITY CODE	1	1/01/2012		
	11. THIS ITEM ONLY APPLIE		SCHOOL CONTROL OF SCHOOLS		,
separate letter or telegram which includes a reference THE PLACE DESIGNATED FOR THE RECEIPT OF virtue of this amendment you desire to change an offe to the solicitation and this amendment, and is received 12. ACCOUNTING AND APPROPRIATION DATA (If received See Schedule	OFFERS PRIOR TO THE HOUR A r already submitted, such change I prior to the opening hour and dat	AND DATE SP may be made	ECIFIED MAY RESULT IN REJECTION OF by telegram or letter, provided each telegram	YOUR OFFER.	f by eference
	ODIFICATION OF CONTRACTS/O	ORDERS. IT M	ODIFIES THE CONTRACT/ORDER NO. AS I	DESCRIBED IN IT	EM 14.
	CT/ORDER IS MODIFIED TO REF I IN ITEM 14, PURSUANT TO TH	FLECT THE AD IE AUTHORITY	GES SET FORTH IN ITEM 14 ARE MADE IN MINISTRATIVE CHANGES (such as change OF FAR 43.103(b).		
D. OTHER (Specify type of modification	and authority)	······································	en en en en en en en en en en en en en e	····	
X Limitation of Funds	Notice				
E. IMPORTANT: Contractor X is not,	is required to sign this docum	ent and return	copies to the issu	ing office.	
14 DESCRIPTION OF AMENDMENT/MODIFICATION DUNS Number: (b)(4) The purpose of this modifica the task order. TOPO: Eric Kleiner		•	<u> </u>	,	082.00 to
LIST OF CHANGES:	nding Only Tabia-				
Reason for Modification : Fu				×	
New Total Obligated Amount for	or this Award: \$1	81,196.	00		
Incremental Funded Amount ch					
Continued				5	
Except as provided herein, all terms and conditions of the 15A. NAME AND TITLE OF SIGNER (Type or print)	e document referenced in Item 9A	·····	etofore changed, remains unchanged and in NAME_AND_TITLE OF CONTRACTING OF		
		Cam	nille W. Davis		
15B. CONTRACTOR/OFFEROR	15C. DATE SIGN		JNITED STATES OF AMERICA		16C. DATE SIGNED
				e.	05 /10 /2012
(Signature of person authorized to sign)			(Signature of Contracting Officer)		05/10/2013

CONTINUATION CHEET	REFERENCE NO. OF DOCUMENT BEING CONTINUED	PAGE C)F
CONTINUATION SHEET	EP-C-11-038/0011/003	2	2

TEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
(A)	(D)	(0)	(D)	(E)	(E)
	CHANGES FOR LINE ITEM NUMBER: 1			*	
	Obligated Amount for this modification: \$40,082.00				,
	Incremental Funded Amount changed from				E F
	\$141,114.00 to \$181,196.00				
					±2
	CHANGES FOR ACCOUNTING CODE:				
	12-13-C-261E000-301FK8XPV-253212261EC046-001				16
	Account code changed from	1			
	12-13-C-261E000-301FK8XPV-2532-12261EC046-001 to		i i		Ì
	12-13-C-261E000-301FK8XPV-253212261EC046-001				8
	NEW ACCOUNTING CODE ADDED:				76
	Account code:				
	12-13-C-261E000-301FK8XPV-253226A6F-13261EC065-0				
	01				
	Beginning FiscalYear 12		łł		
	Ending Fiscal Year 13				
	Fund (Appropriation) C				
*	Budget Organization 261E000	4. 41			2
	Program (PRC) 301FK8XPV				
	Budget (BOC) 2532				
	Job # (Site/Project)]]		
	Cost Organization 26A6F				
	DCN-LineID 13261EC065-001				
	Quantity: 0				
	Amount: \$40,082.00				
	The funding break-out for this incremental				2
	funding is as follows:				
41	Cost: \$(b)(4)				
	Fee: \$				*
	TOTAL: \$40,082.00				20
			8		
	The revised total funding amount break-out is as				81
	follows: Cost: (b)(4)				
	Fee: \$				
	TOTAL: \$181,196.00				
	Payment:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center				
	Mail Drop D143-02				
	109 TW Alexander Drive				
	Durham NC 27711	8			
	FOB: Destination				e v
	Period of Performance: 11/01/2012 to 11/01/2013			D.	
	e e				
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AMENDMENT OF SOLICITATION/MODIFIC	ATION OF CONTRACT		1. CONTRACT ID CODE		E OF PAGES
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. RE	QUISITION/PURCHASE REQ. NO.	5. PROJEC	T NO. (If applicable)
002	02/22/2013	0			
6. ISSUED BY CODE	CPOD	7. AD	MINISTERED BY (If other than Item 6)	CODE	
CPOD		7		L	
US Environmental Protection	Agency				
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Cincinnati OH 45268					
8. NAME AND ADDRESS OF CONTRACTOR (No., street	t, county, State and ZIP Code)	(x) 9A	A. AMENDMENT OF SOLICITATION NO.		
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BATTELLE MEMORIAL INSTITUTE			3. DATED (SEE ITEM 11)		
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COLUMBUS OH 432012693					
		X 10	A MODIFICATION OF CONTRACT/ORDER NO).	
		E	P-C-11-038		
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CODE (b)(4)	FACILITY CODE	1	1/01/2012		
	11. THIS ITEM ONLY APPLIES TO	AMEND	MENTS OF SOLICITATIONS		
The above numbered solicitation is amended as set for	orth in Item 14. The hour and date spec	ified for r	eceipt of Offers is extend	ded, [] is	not extended.
Offers must acknowledge receipt of this amendment p	rior to the hour and date specified in th	e solicitat	ion or as amended, by one of the following method	ods: (a) By	completing
Items 8 and 15, and returning cop	pies of the amendment; (b) By acknowle	edging re	ceipt of this amendment on each copy of the offe	r submitted	; or (c) By
separate letter or telegram which includes a reference					
THE PLACE DESIGNATED FOR THE RECEIPT OF of virtue of this amendment you desire to change an offe					
to the solicitation and this amendment, and is received			by tological or local, provided each tological or	Ottor mano	100000
12. ACCOUNTING AND APPROPRIATION DATA (If req	uired)			***************************************	
See Schedule					
13. THIS ITEM ONLY APPLIES TO M	ODIFICATION OF CONTRACTS/ORDE	RS. IT M	ODIFIES THE CONTRACT/ORDER NO. AS DES	CRIBED IN	ITEM 14.
	· · · · · · · · · · · · · · · · · · ·				
A. THIS CHANGE ORDER IS ISSUED F	PURSUANT TO: (Specify authority) TH	E CHAN	GES SET FORTH IN ITEM 14 ARE MADE IN TH	E CONTRA	CT
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B. THE ABOVE NUMBERED CONTRAC	TORDER IS MODIFIED TO REFLECT	T THE AL	DMINISTRATIVE CHANGES (such as changes in YOF FAR 43.103(b).	paying offi	ce,
X Appropriation date, etc.) Self-ORTH	TIN TIEM 14, FORSOANT TO THE AU	INOKII	OF FAR 45. 105(b).		
C. THIS SUPPLEMENTAL AGREEMEN	T IS ENTERED INTO PURSUANT TO	AUTHOR	ITY OF:		,
8.9					
D. OTHER (Specify type of modification	and authority)				
				-65	
E. IMPORTANT: Contractor 🗵 is not,	is required to sign this document a				
14. DESCRIPTION OF AMENDMENT/MODIFICATION ((Organized by UCF section headings, i	ncluding	solicitation/contract subject matter where feasible	ə.)	
DUNS Number: (b)(4)					
The purpose of this modificat	tion is to Add an ac	dditi	onal Alternate Task Ord	er Mar	nager,
Michael Elovitz.	50 SM1				
TOPO: Eric Kleiner					
LIST OF CHANGES:			A		
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Michael Elovitz. See attache	ed page.				
Continued					
Except as provided herein, all terms and conditions of the	e document referenced in Item 9A or 10	A, as he	retofore changed, remains unchanged and in full	force and e	ffect.
15A. NAME AND TITLE OF SIGNER (Type or print)			NAME AND TITLE OF CONTRACTING OFFICE		
					N ^N er er
8	1	Can	nille W. Davis		3
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B.	UNITED STATES OF AMERICA		16C. DATE SIGNED
8 8		5 5 5			02/22/2012
(Signature of person authorized to sign)			(Signature of Contracting Officer)		02/22/2013
NON 7540 04 450 9070			ATS.	NDARD EC	DM 30 /DEV 10.83)

STANDARD FORM 30 (REV. 10-83) Prescribed by GSA FAR (48 CFR) 53.243

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CONTINUATION SHEET	EP-C-11-038/0011/002	2	3

BATTELLE MEMORIAL INSTITUTE

ITEM NO.	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)		AMOUNT (F)
	Payment: RTP Finance Center US Environmental Protection Agency RTP-Finance Center Mail Drop D143-02 109 TW Alexander Drive Durham NC 27711 Period of Performance: 11/01/2012 to 11/01/2013	4			
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AMENDMENT OF SOLICITATION/MODIFIC	ATION OF CON	TRACT	1. CONTRACT ID CODE	PAGE OF PAGES
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	02/11/2013	D.	R-ORD-12-02770	
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8 NAME AND ADDRESS OF CONTRACTOR (No., street BATTELLE MEMORIAL INSTITUTE 505 KING AVE COLUMBUS OH 432012693	, county, state and En	(x	9B. DATED (SEE ITEM 11)	! NO.
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X Changes-Cost-Reimbur				to a set of the set of
14. DESCRIPTION OF AMENDMENT/MODIFICATION DUNS Number: (b)(4) The purposes of this modific	(Organized by UCF ation are	to: incorpo	ding solicitation/contract subject matter where fea rate PWS revisions to Tas	sible.) k #3; add Task
#5to the PWS; revise the Tas Manager and Alternate Task O order when funding becomes a TOPO: Eric Kleiner LIST OF CHANGES: Reason for Modification : Ad	rder Manag vailable.	er. Additio		
Continued				
Except as provided herein, all terms and conditions of the	ne document referen	ced in Item 9A or 10A.	as heretofore changed, remains unchanged and ir	n full force and effect.
15A. NAME AND TITLE OF SIGNER (Type or print)			16A NAME AND TITLE OF CONTRACTING OF Camille W. Davis	
15B. CONTRACTOR/OFFEROR	150	C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)			(Signature of Contracting Officer)	

STANDARD FORM 30 (REV. 10-83) Prescribed by GSA FAR (48 CFR) 53.243

	REFERENCE NO. OF DOCUMENT BEING CONTINUED			PAGE	OF
CONTINUATION SHEET	EP-C-11-038/0011/001	•		2	6

NAME OF OFFEROR OR CONTRACTOR
BATTELLE MEMORIAL INSTITUTE

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Total Amount for this Modification: \$84,639.00				
¥ 8	New Total Amount for this Award: \$225,753.00	. *			
	TOCOR (Task Order Contracting Officer's Representative) changed To: Eric Kleiner			e e	
	Alternate COR/Project Officer changed To : Craig Patterson				
	CHANGES FOR LINE ITEM NUMBER: 1 Total Amount changed from \$141,114.00 to \$225,753.00	2	2		
	The revised Task Order break-outs are as follows: Cost: (b)(4) Fee:	e e			
	TOTAL: \$225,753.00 Payment: RTP Finance Center		4	e e e	
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	Period of Performance: 11/01/2012 to 11/01/2013				
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ORDER FOR SUPPLIES OR SERVICES SCHEDULE - CONTINUATION

IMPORTANT: Mark all packages and papers with contract and/or order numbers

PAGE NO

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DATE OF ORDER CONTRACT NO. ORDER NO. 0011 EP-C-11-038 11/01/2012 QUANTITY ITEM NO. SUPPLIES/SERVICES QUANTITY UNIT UNIT AMOUNT ORDERED PRICE ACCEPTED (d) (f) (g) (a) (c) (e) Admin Office: CPOD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: NWD Cincinnati OH 45268 Period of Performance: 11/01/2012 to 11/01/2013 0001 Effect of Bromide in Surface Water Intake 141,114.00 on the Formation of Brominated Trihalomethanes at Public Water System Treatment Plants Award Type: Cost-plus-fixed-fee Total Estimated Cost: Fixed Fee: \$(b)(4) Completion Form Requisition No: PR-ORD-12-02770, PR-OW-12-00881 Accounting Info: 12-13-C-261E000-301FK8XPV-2532-12261EC 046-001 BFY: 12 EFY: 13 Fund: C Budget Org: 261E000 Program (PRC): 301FK8XPV Budget (BOC): 2532 DCN -Line ID: 12261EC046-001 Funding Flag: Complete Funded: \$101,114.00 Accounting Info: 12-13-B-40EI-201B53X31-2505-1240DWE106 -001 BFY: 12 EFY: 13 Fund: B Budget Org: 40EI Program (PRC): 201B53X31 Budget (BOC): 2505 DCN - Line ID: 1240DWE106-001 Funding Flag: Complete Funded: \$40,000.00 The obligated amount of award: \$141,114.00. The total for this award is \$141,114.00 TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

PERFORMANCE WORK STATEMENT STREAMS II

Task Order 0011, Battelle EP-C-11-038

TITLE: Effect of Bromide in Surface Water Intake on the Formation of Brominated

Trihalomethanes at Public Water System Treatment Plants

Task Order Manager (TOM)

Alternate Task Order Manager (ATOM)

Name: Craig L. Patterson, P.E. | Name: Jeffery Q. Adams

Office: U.S. EPA NRMRL/WSWRD Office: U.S. EPA NRMRL/WSWRD

1600 Gest Street 26 W. Martin Luther King Drive

Cincinnati, Ohio 45204 Cincinnati, Ohio 45268

Phone: (513) 487-2805 Phone: (513) 569-7835 Fax: (513) 569-7052 Fax: (513) 569-7185

Email: <u>Patterson.Craig@epa.gov</u> Email: <u>Adams.Jeff@epa.gov</u>

PERIOD OF PERFORMANCE: October 30, 2012 through October 30, 2013.

One 1-Year Option may be exercised at a later date.

It is anticipated there will be sampling studies two (2) times per quarter at 7 to 9 drinking water (DW) facilities in WV and PA, and 2 to 3 DW facilities on the Allegheny River with an estimated length of 24 months. The contractor will be required to bill costs associated with the 2 to 3 DW facilities on the Allegheny River separately as defined in the Subtasks listed below.

BACKGROUND

Information collected by Public Water Systems (PWS), as reported to the Pennsylvania Department of Environmental Protection (PA DEP), and West Virginia Bureau for Public Health indicates that elevated levels of brominated disinfection byproducts (DBP) are contributing to increases and exceedances of disinfection byproduct Maximum Contaminant Levels (MCLs) established under the Safe Drinking Water Act (SDWA). Drinking water plants subject to standards for public water systems must meet DBP MCLs including:

- 80 ppb for total trihalomethanes (TTHM) which are comprised of bromodichloromethane, dibromodichloromethane bromoform and chloroform
- 60 ppb for haloacetic acids five (HAA5) which are comprised of: monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid

Trihalomethanes and haloacetic acids are formed when naturally-occurring organic and inorganic materials in the water react with chlorine. Disinfection byproducts are associated with serious health effects, notably increased risks from cancer, and impacts to liver, kidney, or central nervous system.

Beginning in 2012, water systems will be required to comply with more stringent TTHM and HAA5 MCL requirements. Although the MCL value will not change, the compliance locations and compliance calculations will change and it may become more difficult for systems to comply.

PADEP has noted that, since 2008, drinking water system operators have reported elevated levels of bromide in the Monongahela River.^a Higher ambient bromide levels also result in a shift in formation of DBPs from chlorinated to (more) brominated species. For TTHMs, this results in a shift away from chloroform to brominated THMs. For HAAs, this results in a shift away from regulated chlorinated HAAs to non-regulated brominated HAAs; only two of six brominated-HAAs are currently used to calculate compliance with the HAA5 MCL. While higher ambient bromide might not drive HAA5 MCL non-compliance by increasing HAA5 levels, it would result in higher HAA9 levels. These are also concerns because of evidence that brominated DBPs are more toxic than chlorinated DBPs.

Neither EPA nor the states of Pennsylvania or West Virginia have promulgated ambient water quality criteria for bromide based upon the human health effects caused by brominated disinfection byproducts. Knowledge of the amount of bromide in surface water intakes that results in elevated brominated DBPs in finished drinking water is needed by National Pollutant Discharge Elimination System (NPDES) permit writers seeking to establish discharge permit conditions by applying narrative water quality criteria for protection of designated drinking water use.

This knowledge could also inform development, if appropriate, of an EPA water quality criteria recommendation for bromide and/or development of bromide water quality criteria by the states of Pennsylvania or West Virginia.

TASKS

Task 1: Water Utility Coordination

Within 10 days upon the receipt of task order award, the contractor will meet with EPA to obtain contact information and the exact location of 7 to 9 DW treatment facilities located in PA (predominantly in the western portion of the state) and WV and 2 to 3 DW treatment facilities on the Allegheny River. The contractor will establish initial communication with DW facilities identified by EPA to develop a contact list of workers for sample handling, collection and shipment by the utility as well as field sample analysis. Information will also be obtained on the analytical equipment available and methods used at the utility for field sample analysis.

Subtask 1A Deliverable:

- 1. Meet with EPA within 10 days upon the receipt of task order
- 2. Coordinate with 7 to 9 DW facilities in WV and PA

Subtask 1B Deliverable:

- 1. Meet with EPA within 10 days upon the receipt of task order
- 2. Coordinate with 2 to 3 DW facilities on the Allegheny River

Subtask 1A and 1B Acceptance Criteria:

- 1. A list of utility contacts and their responsibilities
- 2. A list of analytical equipment and methods available at each utility

^a Pittsburgh Tribune Review "Mon River's unsafe levels of bromide prompt probe" 9/17/10

Task 2: **QAPP** Amendment

The contractor will review the Quality Assurance Project Plan, prepared and provided by EPA after task order award, for accuracy and include QA specific information from the DW facilities taking part in the study. The contractor will follow EPA Requirements for Quality Assurance Project Plans, EPA QA/R5, available at http://www.epa.gov/quality/qs-docs/r5-final.pdf.

Task 2 Deliverables:

Prepare a QAPP amendment for approval by EPA prior to initial sampling at DW facilities. The QAPP amendment is due 30 days after task order award.

Task 2 Acceptance Criteria:

- 1. A comprehensive sampling and analysis plan is required
- 2. The QAPP amendment shall clearly identify what information will be sought and what analysis will be performed in order to meet project objectives

Task 3: Preparation and Shipment of Sampling Kits

The contractor will provide logistical support for sampling source water and treated water within the DW treatment plant twice per quarter. Logistical support shall begin after EPA approval of the QAPP amendment and last for six (6) quarters from sampling commencement. To summarize, there will be two (2) sampling events per site per quarter. One of the two quarterly samples will be collected contemporaneously with samples collected for determining compliance with TTHM MCLs. Samples will include necessary volumes for analyzing the source water and volumes necessary for analyzing treated water. The contractor will provide required preservation methods for sample shipment. The contractor will assemble sampling kits in coolers for targeted analytes (see Table 1).

Table 1. Water Quality Parameters and Analysis Site

ParameterLaboratoryChloroformFt. MeadeBromodichloromethaneFt. MeadeBromoformFt. MeadeDibromochloromethaneFt. MeadeAmmonia NitrogenFt. MeadeAlkalinityFt. MeadeLab pHFt. MeadeChlorine (Free and Total)Field and CincinnatiTotal Organic Carbon (TOC)CincinnatiDissolved Organic Carbon (DOC)CincinnatiChlorideCincinnatiBromideCincinnatiBromateCincinnatiTotal Dissolved Solids (TDS)CincinnatiTTHM Formation PotentialCincinnatiUV254 AbsorbanceCincinnatiDissolved Organic Matters (DOM)CincinnatiConductivityFieldTemperatureFieldpHField	Table 1. Water Quality Paran	neters and Analysis Site
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Sampling kits will include adequate chain-of-custody documentation, sample bottles including all required preservatives, blanks (i.e., trip, field, rinse and temperature), specific directions for preservation, storage and shipment. The contractor will include calibration instructions, data sheets, and instructions for parameters to be measured in the field (e.g. pH, temperature, conductivity, total and free chlorine). The assembly of the first set of sampling kits shall be completed within 30 days after EPA's approval of the QAPP amendment.

Shipping information for samples shall be sent to two (2) EPA laboratories, including the Fort Meade R3 Regional Laboratory (Maryland) and the National Risk Management Research Laboratory (Cincinnati, OH). Methods to be employed, shipping locations, and preservation requirements are included in Table 2. In addition to sample volumes listed in Table 2, four (4) L from the source water will be required for laboratory studies on DBP formation. This volume of water will need to be preserved only by keeping the sample at <=6°C during shipment. The samples shall be shipped overnight to the respective laboratories.

The specific addresses for sample shipments are:

Kevin Martin
U.S. EPA, Region III, OASQA
Environmental Science Center
701 Mapes Road
Fort Meade, Maryland 20755-5350

and

Mike Elovitz USEPA-NRMRL 26 West Martin Luther King Drive Mail Stop 681 Cincinnati, OH 45268 Phone: 513-569-7642 e-mail: elovitz.michael@epa.gov

Subtask 3A Deliverable:

Prepare initial sampling kits with instructions for shipment to 7 to 9 DW facilities in WV and PA.

Subtask 3B Deliverables:

Prepare sampling kits with instructions for shipment to 2 to 3 DW facilities on the Allegheny River.

Subtask 3A Acceptance Criteria:

Shipment and successful delivery to 7 to 9 DW facilities in WV and PA two (2) times each quarter.

Subtask 3B Acceptance Criteria:

Shipment and successful delivery to 2 to 3 DW facilities on the Allegheny River two (2) times each quarter.

Lab/ Field	Method	Analyte	CAS#	Analyte Priority	Analytical Equipment Type	Detection Limit	Quantification (Reporting) Limit	Minimum Volume	Preservative	Holding Time	Expected Range Measurements
Fort Meade	EPA 524.2	Chloroform	76-66-3	Critical	Gas Chromatograph		0.5 μg/L	120 mL (3 vials	Dechlorinate with 25 mg ascorbic acid	14 days	0-80 μg/L
		Bromodichloro methane	75-27-4	Critical	Gas Chromatograph		0.5 μg/L	filled with no	2 drops 1:1 HCl [1]		0-50 μg/L
	e e e e e e e e e e e e e e e e e e e	Bromoform	75-25-2	Critical	Gas Chromatograph		0.5 μg/L	headspace)	pH<2		0-50 μg/L
		Dibromochlor omethane	124-48-1	Critical	Gas Chromatograph		0.5 μg/L		Cool, ≤ 6°C		0-50 μg/L
Fort Meade as backup to Cinci	SM 5310B	Total Organic Carbon (TOC)	NA	Critical	TOC Analyzer		3 mg/L	100 mL	sulfuric acid to pH<2, cool ≤6 °C	28 days	0-5 mg/L
Fort Meade as backup to Cinci	SM 5310B	Dissolved Organic Carbon (DOC)	NA	Critical	TOC Analyzer		3 mg/L	100 mL	filter in field if possible, sulfuric acid to pH<2, cool ≤6 °C	28 days	0-5 mg/L
Fort Meade	SM 4500- NH3 BG	Ammonia Nitrogen		Secondary	Colorimeter		0.04 mg/L	200 mL	cool, ≤6 °C sulfuric acid to pH<2	28 days	Unknown
Fort Meade	SM 2320B	Total Alkalinity (Bicarb and Carb)	NA	Secondary	Titration			200 mL [2]	Cool, ≤ 6°C	1 day	0-125 mg/L
Fort Meade	SW 846 9040C	Lab pH	NA	Secondary	pH meter	N/A	N/A	50 mL [2]	Cool, ≤ 6°C	1 day	6-9 S.U.
Field	EPA 120.1	Conductivity	NA	Secondary	Conductivity Meter	N/A	N/A	50 mL	none	Imme- diately	Unknown
Cinci	EPA 415.3 ²	Total Organic Carbon (TOC)	NA	Critical	TOC Analyzer	0.1 mg/L	LCMRL TBD	100 mL	sulfuric acid to pH<2, cool ≤6 °C	28 days	0-5 mg/L
Cinci	EPA 415.3 ²	Dissolved Organic Carbon (DOC)	NA	Critical	TOC Analyzer	0.1 mg/L	LCMRL TBD	100 mL	filter in field if possible, sulfuric acid to pH<2, cool ≤6 °C	28 days	0-5 mg/L
Cinci	EPA 300.1	Chloride	(NaCl)	Secondary	lon Chromatograph			200 mL	None	28 days	Unknown
			7647-14-5			MDL TBD	LCMRL TBD				6

in April

Lab/ Field	Method	Analyte	CAS#	Analyte Priority	Analytical Equipment Type	Detection Limit	Quantification (Reporting) Limit	Minimum Volume	Preservative	Holding Time	Expected Range Measurements
Cinci	EPA 300.1	Bromide	(NaBr)	Critical	Ion Chromatograph	si £		200 mL	None	28 days	0-3100 μg/L
45		e de la companya de l	7647-15-6			MDL TBD	LCMRL TBD				
Cinci	EPA 300.1	Bromate	(BrO₃⁻)	Secondary	Ion Chromatograph	e s	ti ti	200 mL	None	28 days	Unknown
		8	15541-45-4			MDL TBD	LCMRL TBD				
Cinci	Fluoresc ence	Dissolved Organic Matter (DOM)	NA	Secondary	Fluorescence analyzer	N/A	N/A	100 mL	filter in field if possible, sulfuric acid to pH<2, cool ≤6 °C	28 days	Unknown
Cinci	EPA 160.1	Total Dissolved Solids	NA	Secondary	filter/drying oven	MDL TBD	n/a	500 mL	Cool, ≤ 6°C	7 days	Unknown
Cinci	Hach Method 10132	TTHM+ formation	NA	Secondary	Water bath (boiling). Spectrometer (UV-VIS)	MDL TBD	LCMRL TBD	40 mL	Cool, ≤ 6°C	14 days	Unknown
Cinci	EPA 415.3 ²	UV 254 absorbance	NA	Critical	Spectrometer (UV-VIS)	N/A	N/A	100 mL	filter in field if possible, sulfuric acid to pH<2, cool ≤6 °C	Imme- diately	Unknown
Field	SM 2550	Temperature		Critical	Thermometer	N/A	N/A	200 mL	none	Imme- diately	50-80 F
Field	SM 4500H	рH	NA	Critical	pH meter	N/A	0 - 14	200 mL	none	Imme- diately	6-9 S.U.
Field	SM 2510B	Conductivity	NA	Secondary	Conductivity Meter	N/A	N/A	50 mL	none	Imme- diately	Unknown
Field & Cinci	SM 4500 Cl (G- DPD Method)	Chlorine, Residual (Free)	(Cl₂) 7782-50-5	Critical	Spectrometer (UV-VIS)	MDL TBD (in lab)	LCMRL TBD (in lab)	200 mL	Cool, ≤ 6°C (for lab samples)	Imme- diately	0-5 mg/L
Field & Cinci	SM 4500 Cl (G- DPD Method)	Chlorine, Residual (Total)	(Cl ₂) 7782-50-5	Secondary	Spectrometer (UV-VIS)	MDL TBD (in lab)	LCMRL TBD (in lab)	200 mL	Cool, ≤ 6°C (for lab samples)	Imme- diately	0-5 mg/L

^[1] When sampling for THM analysis only, acidification may be omitted if sodium thiosulfate is used to dechlorinate the sample. This exception to acidification does not apply if ascorbic acid is used for dechlorination.
[2] Note that EPA Method 415.3 requires 40mL to 1L total sample volume. Sample is used for TOC, DOC and UV254

Task 4: Technical Support and Travel to a Water Utility Workshop

The contractor will be expected to travel to a 1-day workshop on instrument calibration to assist EPA and water utility personnel during this task order. The location of the workshop will be at a convenient location within driving distance of the water utilities taking part in this project. The contractor may also be expected to travel to 7 to 9 water utilities in WV and PA and 2 to 3 water utilities on the Allegheny River to assist with trouble shooting of analytical equipment, review of analytical procedures, and calibration of instruments.

Subtask 4A Deliverables:

Coordinate workshop and troubleshooting visits with 7 to 9 DW facilities in WV and PA.

Subtask 4B Deliverables:

Coordinate workshop and troubleshooting visits with 2 to 3 DW facilities on the Allegheny River.

Task 4 Acceptance Criteria:

- 1. Delivery of a list of attendees from utility contacts and their responsibilities.
- 2. Delivery of a list of analytical equipment and methods available at each utility.
- 3. Successfully assisted EPA and water utility personnel during the workshop and with trouble shooting of analytical equipment, review of analytical procedures, and calibration of instruments.

QUALITY ASSURANCE SURVEILLANCE PLAN (QASP) STREAMS II

Task Order 0011, Battelle EP-C-11-038

TITLE – Effect of Bromide in Surface Water Intake on the Formation of Brominated Trihalomethanes at Public Water System Treatment Plants

TASK ORDER MANAGER - Craig Patterson

Performance Objective (Task)	Performance Standard (PS)	Surveillance Plan Surveillance Plan (SP)	Contractor Incentive (CI)	<u>√</u> or <u>X</u>
Task 1: Water Utility Coordination	Within 10 days after Task Order award, the contractor will meet with EPA to obtain contact information and the exact location of 7-9 drinking water (DW) treatment facilities located in PA and WV.	TOM will document whether the contractor established initial communication with identified DW facilities for sample handling contact list, collection and shipment by the utility and field sample analysis, and obtained information on analytical equipment available and methods used at the utility for field sample analysis.	TOM will determine if meeting takes place within 10 days after Task Order award	X
Task 2: QAPP Amendment	Demonstrate familiarity/competence providing high quality QAPs that are clear, concise, informative, and timely. The QAPP is due 30 days after Task Order award.	TOM will document whether the contractor demonstrated knowledge and experience preparing the QAPPs, sampling and analysis plans, and sample handling and DOT shipping. The TOM will document whether quality of deliverable is at an acceptable level.	TOM will determine if the QAPP amendment is completed within 30 days after TO award.	X
Task 3: Preparation and Shipment of Sampling Kits	Provide logistical support for sampling source water and treated water within the DW treatment plant twice per quarter for six (6) quarters. Sampling kits shall include: adequate chain-of-custody documentation; sample bottles with required preservatives; blanks; directions for preservation, storage and shipment; calibration instructions; data sheets; & instructions for parameters to be measured in the field.	TOM will document whether the contractor successfully shipped sampling kits and instructions and demonstrated knowledge and experience in sample handling and DOT shipping.	TOM will determine if the contractor made two (2) shipments per quarter to the participating water utilities.	X